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SYSTEMS AND METHOD FOR USING CLOSED CAPTIONS TO INITIATE DISPLAY OF RELATED CONTENT ON A SECOND DISPLAY DEVICE

RELATED APPLICATIONS

This application is a continuation of and claims benefit of priority to U.S. patent application Ser. No. 15/159,734, filed May 19, 2016, issued as U.S. Pat. No. 9,942,617 on Apr. 10, 2018, entitled "Systems and Method for using Closed Captions to Initiate Display of Related Content on a Second Display Device," which is a continuation of and claims benefit of priority to U.S. patent application Ser. No. 14/500,761, filed Sep. 29, 2014, issued as U.S. Pat. No. 9,357,271 on May 31, 2016, entitled "Systems and Method for using Closed Captions to Initiate Display of Related Content on a Second Display Device," which is a continuation of and claims benefit of priority to U.S. patent application Ser. No. 13/927,015, filed Jun. 25, 2013, issued as U.S. Pat. No. 8,849,959 on Sep. 30, 2014, entitled "Systems and Method for using Closed Captions to Initiate Display of Related Content on a Second Display Device," which is a continuation of and claims benefit of priority to U.S. patent application Ser. No. 13/171,326, filed Jun. 28, 2011, issued as U.S. Pat. No. 8,484,313 on Jul. 9, 2013, entitled "Using a Closed Caption Stream for Device Metadata," which is a non-provisional application of and claims benefit of priority to U.S. Provisional Application No. 61/490,005, filed May 25, 2011. Content of each of the above applications is hereby incorporated by reference in its entirety.

TECHNICAL FIELD

The present description relates generally to providing information to a user.

BACKGROUND

Video content sometimes includes auditory or visual messages that prompt viewers to take some action relating to the content of the video. For example, a television commercial may prompt a user to visit a product's website associated with an advertised product to obtain coupons or information about the product. In another example, during the broadcast of a television program or movie, a message may appear prompting a viewer to visit a website to view more information about the people, places or things depicted in or associated with the television program or movie. Even without being prompted to, many users are interested in a person, place or thing related to the video content they are watching. Typically, to obtain information relevant to a video stream, a user would need to visit a website using an Internet-enabled device. Existing methods are inefficient because they require users to take some action that is outside the viewing experience. Also many viewers may miss or ignore audio messages and visual messages that provide additional information about video content, and it may be inconvenient for many viewers to operate a computing device while viewing video content.

SUMMARY

The methods and systems described herein provide an effective way to display information relevant to video content while a user is viewing the video content. For example, a commercial about tea may be displayed on a display device

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and while the user is viewing the commercial, a client device connected to the display device parses the closed caption content to obtain a set of information, sends the set of information to a server, obtains a set of instructions from the server and performs one or more functions in accordance with the received set of instructions. The one or more functions display information relating to the closed caption content. In this example, the set of instructions include instructions to execute one or more applications such as a browser to display a web page with information about a particular type or brand of tea, a media player to show an instructional video on preparing tea, a feed reader application to display articles about tea, or a coupon book application to present coupons for the tea that was the subject of the commercial. The one or more applications are executed while the commercial is being played and the one or more applications are concurrently displayed with the commercial on the display device.

In some implementations, a method for using closed captions to initiate display of related content on a second display device includes: obtaining a video stream that is configured to be displayed on a first display device. The video stream includes closed captions. In some implementations, the method also includes: identifying one or more symbols or words included in the closed captions; and obtaining a set of instructions. The set of instructions includes instructions to display content information relating to at least one symbol or word in the one or more symbols or words. The method further includes: in response to obtaining, and in accordance with, the set of instructions, executing one or more applications based on a type of the content information; and formatting for display, on a second display device, output from the one or more applications. In some implementations, the one or more applications include at least a content viewing application.

In some implementations, a method for using closed captions to initiate display of related content on a second display device includes: obtaining a video stream including closed captions that is configured to be displayed on a first display device; forwarding to a server one or more symbols or words included in the closed captions; and obtaining from the server a set of instructions related to the one or more symbols or words. In some implementations, the set of instructions includes instructions to display on a second display device different from the first display device content information relating to at least one of the one or more symbols or words. The method further includes, in response to obtaining, and in accordance with, the set of instructions, executing one or more respective applications based on a type of the content information; and formatting for display on the second display device output from the one or more applications. In some implementations, the applications include one of: a web browser, a music application, a feed reader application, a coupon application, and a content viewer.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram illustrating a distributed client-server system in accordance with some implementations.

FIG. 2A is a block diagram illustrating the structure of an exemplary server system according to some implementations.

FIG. 2B is a block diagram illustrating the structure of an exemplary broadcast system according to some implementations.